Adam Equipment

# CPW*plus* RANGE OF SCALES

## SERVICE MANUAL

ADAM EQUIPMENT CO. LTD.
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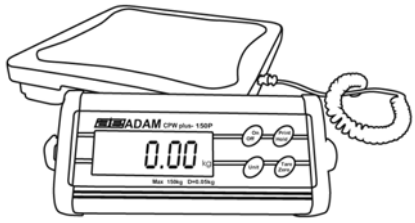
# 1.0 INTRODUCTION

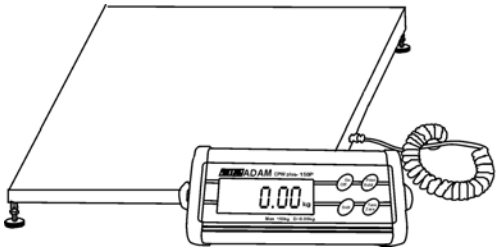
The CPW*plus* range of scales are primarily used for general weighing applications. The scales are used in different countries and can display weights in various units.

**CPW*plus***



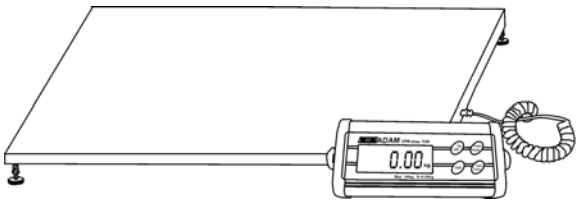
300 x 300mm / 12” x 12” base
operates with 6 x AA size batteries

**CPW*plus* M**



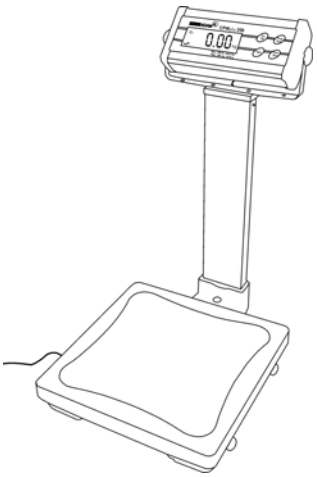
500 x 500mm / 19.7” x 19.7” base
with internal rechargeable batteries

**CPW*plus* L**



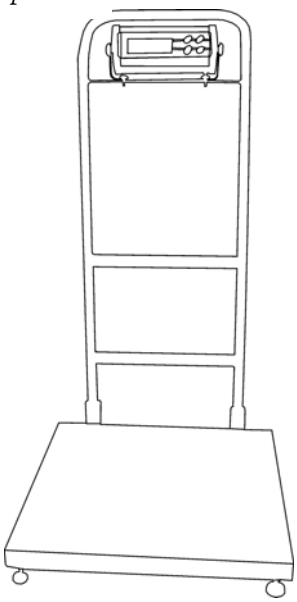
900 x 600mm / 35.4” x 23.6” base
with internal rechargeable batteries

**CPW*plus* P**



(Available in USA only)
300 x 300mm / 12” x 12” base
operates with 6 x AA size batteries

**CPW*plus* W**



500 x 500mm / 19.7” x 19.7” base
with internal rechargeable batteries,
wheels and handles for moving

## 1.1 SPECIFICATIONS

| ➔ Model | CPW*plus* 6* CPW*plus* 6P* | CPW*plus* 15* CPW*plus* 15P* | CPW*plus* 35 CPW*plus* 35P* CPW*plus* 35W CPW*plus* 35M CPW*plus* 35L | CPW*plus* 75 CPW*plus* 75P* CPW*plus* 75W CPW*plus* 75M CPW*plus* 75L | CPW*plus* 150 CPW*plus* 150P* CPW*plus* 150W CPW*plus* 150M CPW*plus* 150L | CPW*plus* 200 CPW*plus* 200P* CPW*plus* 200W CPW*plus* 200M CPW*plus* 200L |
|---|---|---|---|---|---|---|
| Capacity x Readability d=e= | 6 kg x 2 g<br>13 lb x 0.005 lb<br>212oz x 0.1oz<br>13 lb:1 oz x 1 oz | 15kg x 5g<br>33 lb x 0.01 lb<br>520 oz x 0.2 oz<br>32 lb:16oz x 1 oz | 35 kg x 10 g<br>75 lb x 0.02 lb<br>1200 oz x 0.5 oz<br>74 lb:16 oz x 1 oz | 75 kg x 20 g<br>165 lbx 0.05 lb<br>2640 oz x 1 oz<br>164 lb:16 oz x 1 oz | 150 kg x 50 g<br>330 lb x 0.1 lb<br>5280 oz x 2 oz<br>329 lb:16 oz x 2 oz | 200 kg x 50 g<br>440 lb x 0.1 lb<br>7040 oz x 2 oz<br>439 lb:16 oz x 2 oz |
| Repeatability | 2 g / 0.005 lb | 5 g / 0.01 lb | 10 g / 0.02 lb | 20 g / 0.05 lb | 50 g / 0.1 lb | 50 g / 0.1 lb |
| Linearity | 4 g / 0.01 lb | 10 g / 0.02 lb | 20 g / 0.04 lb | 40 g / 0.1 lb | 100 g / 0.2 lb | 100 g / 0.2 lb |

| | ➔ Series | CPW*plus* | CPW*plus* - P | CPW*plus* - W | CPW*plus* - M | CPW*plus* - L |
|---|---|---|---|---|---|---|
| Platform size | | | | | | |
| | 300 x 300 mm / 11.8” x 11.8” | ✓ | ✓ | | | |
| | 500 x 500 mm / 19.7” x 19.7” | | | ✓ | ✓ | |
| | 900 x 600 mm / 35.4” x 23.6” | | | | | ✓ |
| Power Option | | | | | | |
| | 12 VAC, 150 mA Power supply module supplied | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 6 x AA size batteries | ✓ | ✓ | | | |
| | Internal rechargeable battery (~60 hours) | | | ✓ | ✓ | ✓ |
| Net weight | | | | | | |
| | 4 kg / 8.8 lb | ✓ | | | | |
| | 5.25 kg / 11.6 lb | | ✓ | | | |
| | 10.5 kg / 23.1 lb | | | ✓ | | |
| | 8.5 kg / 18.7 lb | | | | ✓ | |
| | 17 kg / 37.4 lb | | | | | ✓ |
| Indicator Dimensions (wxdxh) | | 270 x 80 x 30 mm / 10.6” x 3.1” x 1.2” | | | | |
| Stabilization time | | 2 - 3 seconds | | | | |
| Tare | | Full range tare by subtraction | | | | |
| Weighing units | | kg, lb, oz, lb:oz | | | | |
| Calibration | | Automatic External - user selectable cal weight | | | | |
| Interface | | Bi-directional RS-232 | | | | |
| Operating temperature | | 0°C to 40°C / 32°F to 104°F | | | | |
| Humidity | | Up to 90% RH non-condensing | | | | |
| Display | | 25 mm/1.0” Backlit LCD digits with weight legends for kg, lb, oz, lb:oz and low battery, stable, zero, net weight and Hold symbols | | | | |
| Keypad | | Mechanical switches under overlay | | | | |
| Scale housing | | Indicator: Aluminium<br>Platform: Mild steel base and stainless steel pan | | | | |
| Applications | | Weighing, Dynamic / Animal weighing, Display Hold | | | | |

***NOTE: CPW*plus* 6, CPW*plus* 15 and CPW*plus* - P versions are available only in the USA**

## 1.2 SERVICE INFORMATIONS

Refer to the Operators Manual for details of operation. This manual will cover details of calibration and troubleshooting. If you have a problem with the scales that is not directly addressed by this manual then contact your dealer or Adam Equipment for more assistance.

In order to provide further assistance, the supplier will need the following information which should be kept ready:

**A. Details of your company**

-Name of your company:
-Contact person's name:
-Contact telephone, e-mail,
fax or any other methods:

**B. Details of the unit purchased**

(This part of information should always be available for any future correspondence. We suggest you to fill in this form as soon as the unit is received and keep a print-out in your record for ready reference.)

| | |
|---|---|
| **Model name of the scale:** | **CPW***plus*_____ |
| **Serial number of the unit:** | |
| **Software revision number (Displayed when power is first turned on):** | |
| **Date of Purchase:** | |
| **Name of the supplier and place:** | |

**C. Brief description of the problem**

Include any recent history of the unit. For example:

-Has it been working since it's delivered
-Has it been in contact with water
-Damaged from a fire
-Electrical Storms in the area
-Dropped on the floor, etc.

# 2.0 TROUBLE SHOOTING GUIDE

| **PROBLEM** | **POSSIBLE CAUSE** |
|---|---|
| Display is blank<br>No turn on test | Power Switch is faulty or not turned on<br>Batteries are spent<br>Power supply is incorrect |
| Display all zeros after turn on | Pan not installed<br>Unstable weight<br>Load cell damaged<br>Electronics faulty |
| '-▯▯▯▯▯' appears on display | Maximum capacity exceeded<br>Load Cell damaged<br>Electronics is faulty |
| Display is unstable | Drafts or air currents<br>Obstruction under pan<br>Sample is moving (animal weighing)<br>Vibrations through table<br>Temperature changed dramatically<br>Electronics faulty<br>Battery low |
| Weight value incorrect | Calibration error, Recalibrate<br>Unit calibrated with inaccurate weight<br>Balance not level<br>Obstruction between sample and cover<br>Wrong unit of weight displayed |
| Cannot use Full Capacity | Over-load Stops hitting pan support or hitting bottom of load cell<br>Electronics faulty<br>Parameters set incorrectly<br>Load Cell Damaged |
| Not Linear | Overload stops hitting too soon<br>Faulty Factory Calibration |
| Off Centre Loading error | Overload Stops not correct<br>Obstruction under pan |

## 3.0 ERROR MESSAGES

During the initial power-on testing or during the operation the scale may show an error message. The error messages are described below.

| ERROR CODE | DESCRIPTION | POSSIBLE CAUSES |
|---|---|---|
| nnnnnn | A continuous beep is heard. | Weight on the pan exceeds the capacity of the scale. Remove the weight from the pan. |
| CALEr | If the selected mass is less than 10% or more than 20% of the capacity of the scale, an error message "CALEr" will be displayed and the scale will return to zero. | Incorrect calibration mass. Repeat the process correctly. |

If an error message is shown, repeat the procedure that caused the message such as turning the scale on, calibration or any other functions. If the error message is still shown, contact your supplier for further support.

# 4.0 CONSTRUCTION

The CPW*plus* range of Platform Scales has a stainless steel top pan on a steel frame and an indicator with a large backlit LCD. The water-resistant keyboard has 4 easy to use function keys: **[On/Off]**, **[Print/Hold]**, **[Unit]**, and **[Tare/Zero].** All scales are supplied with the Power Supply module.

The construction of the scales includes an indicator housing with the electronics & keypad and a base assembly with 4 load cells and a battery housing.

There are no user serviceable parts on the PCB or the base assembly. If problems occur check the cable connecting the base to the indicator for cuts, broken wires or poor soldering around the connections.

Likewise if a problem is found with the load cells check the wiring. The load cells are not sold separately.

The simple indicator has no user serviceable parts. There is no adjustment needed as it is designed to work with any of the CPW*plus* scale bases.

If the overlay fails replacements are available.

If the indicator is required to be opened to check connections, replace the cable or change the software. This can be done by removing the four screws of the right side, plastic end cap.

The overlay will need to be removed above the four buttons so that the switch caps can be removed to allow the PCB to slide out.

The base can be accessed by removing the 4 nuts and washers on the top of the base plate, under the weighing pan. The nuts tighten only on the 5mm plastic spacer that passes through the pan so that the pan can sit on top of the load cell mountings without connecting them rigidly.

Inside the base are four full bridge load cells which are terminated to a PCB which includes voltage rectification and regulation plus an input from the external battery chamber on the underside of the base.

All load cells are matched and are soldered to a common connection so there is no adjustment for off centre loading. If a load cell is to be measured using a DVM to check for damage then the signal wires must first be disconnected from the others to avoid measuring the average voltage of the whole system.

**LOAD CELL WIRE CONNECTIONS:**

| | | |
|---|---|---|
| Red Wire, | Ex+ | (+5V DC) |
| Black Wire, | Ex- | (0V GND) |
| Green Wire, | Sig+ | |
| White Wire, | Sig- | |

**OTHER CONNECTIONS:**

The input voltage to the base is from a 12V AC adapter which is then rectified by four diodes and smoothed by electrolytic capacitor before being regulated to 9V DC for output via 7 pin audio connector to the weighing indicator.

Alternatively 6 x 1.5V Dry cell batteries can be used (for standard CPW*plus* and CPW*plus*-P only) which connect via a protection diode to the same point.

Connections on the circular, 8 pin audio base connector are:

| | | |
|---|---|---|
| Pin 1 | TXD Transmit data via RS232 | Pin 3 of 9 pin D connector |
| Pin 2 | RXD Receive data via RS232 | Pin 2 of 9 pin D con |
| Pin 3 | Load cell Sig- of base PCB | Load cell White wire |
| Pin 4 | Load cell Sig+ of base PCB | Load cell Green wire |
| Pin 5 | Load cell Ex- of base PCB | Load cell Black wire |
| Pin 6 | Load cell Ex+ of base PCB | Load cell Red wire |
| Pin 7 | DC supply to indicator | 7809 output / battery +ve |
| Pin 8 | Voltage ground, RS232 GND | 7809 GND / Pin 5 of 9 pin |

# 5.0 REPLACEMENT PARTS AND ACCESSORIES

If you need to order any accessories and spare parts, contact your dealer or Adam Equipment. A partial list of such items is as follows-

| **Accessories** | **Part Number** |
|---|---|
| Hard carry case (CPW*plus* models only) | 7954 |
| Printer | 8023 |
| RS-232 cable | 9014 |
| Non-slip mats (For CPW*plus* L models only) | 9013 |

| **Spare Parts** | **Part Number** |
|---|---|
| Power Supply Adapter | 7973 |
| Keypad overlay | 7960 |
| Stainless Steel Pan for CPW*plus* & CPW*plus* P | 7972 |
| Stainless Steel Pan for CPW*plus* W & CPW*plus* M | 9011 |
| Stainless Steel Pan for CPW*plus* L | 9010 |
| Replacement Lead-Acid Battery for CPW*plus* W, CPW*plus* M & CPW*plus* L | 9012 |

# 6.0 CALIBRATION

- Occasionally the scale should be verified whether it is weighing correctly by measuring to a known mass.

- Zero the scale. Place the mass on the centre of the platform and note the reading. Calibrate the scale, if necessary.

**PROCEDURE**

- While in the normal weighing mode, press and hold the **[Tare/Zero]** key for 4 seconds.

- The display will show "**CAL**" along with the last selected unit. The unit can be changed by using the **[Unit]** key to calibrate in kg or lb.

- Press the **[Print/Hold]** key. The display will show "**L XX**" where **XX** is the Calibration weight which is user-selectable.

- Use the **[Tare/Zero]** key to change the flashing digit and the **[Print/Hold]** key to move to the next digit.

- Press the **[Unit]** key to confirm the calibration weight. The digit stops flashing.

  **Note:** If the selected mass is less than 10% of the capacity of the scale, an error message "**CALEr**" will be displayed and the scale will return to zero. Repeat the process correctly.

- Place the correct calibration mass as selected by the user at the centre of the pan.

- Press the **[Unit]**. The display will return to weighing mode.

  **Note:** If the mass loaded is more than ±20% of the factory calibration reference then an error message "**CALEr**" will be displayed and the scale will return to weighing without calibration being saved. Repeat the process correctly.

- Remove the weight.

- Verify the scale is calibrated correctly. Repeat the process, if necessary.

# 7.0 PARAMETERS

## 7.1 USER PARAMETERS

The scale can be set as desired by the user to control the weighing operation. See section 18.0 for the complete list of parameters.

- Switch off the scale.

- Hold the **[Tare/Zero]** key and then press the **[On/Off]** key momentarily. Release the **[Tare/Zero]** key. The display shows the first parameter - auto power off.

- To exit the parameter setting at any time, press the **[Print/Hold]** key.

- To scroll through the user parameters, press the **[Unit]** key (which will advance to the next parameter).

- To return to normal weighing, turn the scale off and back to on again or press the **[Print/Hold]** key.

### 7.1.1 AUTO POWER OFF

- The first parameter is to set the auto power off function. The display will show "**Pr oFF**" (DEFAULT SET).

- Press **[Tare/Zero]** to toggle between "**Pr on**" and "**Pr oFF**".

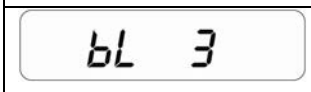
| | |
|---|---|
| | Enables the Auto Power Off function. The power will be turned off after 2 minutes if a key has not been pressed for 2 minutes and the scale is at zero. If there is any weight on the scale or a key is pressed, the scale will continue to work. |
| | Disables the Auto Power Off function. The scale will not automatically turn off. |

- Press the **[Unit]** key to confirm the selection and move to the next parameter.

### 7.1.2 SETTING OF BACKLIGHT

- The second parameter to set the backlight function. Display will show "**bL 3**" (DEFAULT SET).

- Press the **[Tare/Zero]** key to change the settings

| | |
|---|---|
| | Off- backlight is switched off always |
| | On- backlight is set to on always |
|  | Automatic- backlight will be off unless a weight is placed on the pan. When the weight is removed it will stay on for 10 seconds after the scale returns to zero. |

- Press the **[Unit]** key to confirm the selection and move to the next parameter.

### 7.1.3 ENABLING OF UNITS

- The third parameter is to enable or disable the weighing units so that the user can select the enabled units during the weighing operation. Display will show "**on kg**" (DEFAULT SET)

- Use **[Tare/Zero]** to toggle between "**on**" and "**oFF**".

| | |
|---|---|
| on kg | Enables the unit |
| oFF kg | Disables the unit |

- Press the **[Unit]** key to confirm the selection and move to the next unit which is "lb".

- After all units are set, press the **[Unit]** key to move to the next parameter.

### 7.1.4 COMMUNICATION ADDRESS

- The fourth parameter is for setting the ID for the RS-232 results output. Display will show "**Add 0**" (DEFAULT SET)

- This parameter sets the communication address which is sent via RS-232 as an ID code. There are 26 options to select from "**Add 0**" to "**Add 25**". Set **"Add 0"** for no address. The numbers relate to alphabets for example 1=A, 2=B to 25=Y

- Use the **[Tare/Zero]** key to scroll through the options.

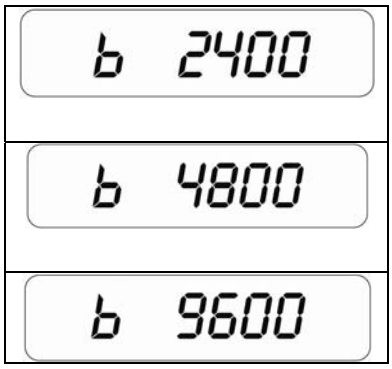
- Press the **[Unit]** key to confirm the selection and move to the next parameter.

### 7.1.5 SELECTION OF BPS

- The fifth parameter is to select the BPS or baud rate per second which is the speed of sending data to RS-232 interface. Display will show "**b 9600**" (DEFAULT SET)

- Use the **[Tare/Zero]** key to scroll through the options.

- There are three options-




- Press the **[Unit]** key to confirm the selection and move to the next parameter.

### 7.1.6 SELECTION OF BIT RATE AND PARITY

- The sixth parameter is to select the bit rate and parity used for sending data to RS-232 interface. Display will show "**PAr 1**" (DEFAULT SET)

| | |
|---|---|
| PAr 1 | 8 bits no parity |
| PAr 2 | 7 bits even parity |
| PAr 3 | 7 bits odd parity |

- Use the **[Tare/Zero]** key to scroll through the options.

- Press the **[Unit]** key to confirm the selection and move to the next parameter.

### 7.1.7 SELECTION OF TRANSMISSION MODE

- The seventh parameter is to select the transmission mode. Display will show "**trn 1**" (DEFAULT SET). See the HOLD AND PRINTING TABLE in section 13.1.9.

| | |
|---|---|
| trn 1 | No data output |
| trn 2 | Continuous data output |
| trn 3 | Normal output when the **[Print/Hold]** key is pressed |

- Use the **[Tare/Zero]** key to scroll through the options.

- Press the **[Unit]** key to confirm the selection and move to the next parameter.

### 7.1.8 SELECTION OF HOLD FUNCTION

- The eighth parameter is to set the Hold function. Display will show "**Hod 1**" (DEFAULT SET). See the HOLD AND PRINTING TABLE in section 13.1.9.

| | |
|---|---|
| Hod 1 | No hold function |
| Hod 2 | Automatic hold function |
| Hod 3 | Manual hold function |

- Use the **[Tare/Zero]** key to scroll through the options.

- If selection of "**Hod 2**" or "**Hod 3**" is made then it will lead to SETTING OF HOLD TIME LIMIT (see section 13.1.9). The display will show "**Hold**" above the weight during operation.

- If "**Hod 1**" is selected, pressing the **[Unit]** key will take you back to the first parameter on Auto Power Off.

- If you want to return to weighing, press the **[Print/Hold]** key.

### 7.1.9 SETTING OF HOLD TIME LIMIT

- This parameter is to set the time limit by which the display is held after the hold function is used. It is applicable if the hold function is set to "**Hod 2**" or "**Hod 3**".

- Use the **[Tare/Zero]** key to scroll through the options.

- The options are-

| | |
|---|---|
| Ht, 0 | Holds the display for an infinite time limit |
| Ht, 1 | Holds the display for 15 (1 x 15) seconds |
| Ht, 2 | Holds the display for 30 (2 x 15) seconds |
| Ht, 3 | Holds the display for 45 (3 x 15) seconds |
| Ht, 4 | Holds the display for 60 (4 x 15) seconds |

- Press the **[Unit]** key to confirm the selection and move back to the first parameter or press **[Print/Hold]** to exit the parameter setting.

## HOLD AND PRINTING TABLE

| | trn 1 | trn 2 | trn 3 |
|---|---|---|---|
| Hod 1 | RS-232 is off.<br>Hold is off.<br>**[Print/hold]** key has no function. | Prints continuously.<br>Hold is off.<br>**[Print/hold]** key has no function. | RS-232 prints when **[Print/Hold]** is pressed.<br>Hold function is disabled. |
| Hod 2 | RS-232 is off.<br>Hold occurs automatically when the weight is stable.<br>Hold is released if **[Print/Hold]** is pressed or time expires as per **Hti** setting. | Print continuously.<br>Hold occurs automatically when the weight is stable.<br>Hold is released if **[Print/Hold]** is pressed or time expires as per **Hti** setting. | RS-232 prints and hold occurs automatically when the weight is stable.<br>**[Print/Hold]** key is pressed print will occur again.<br>Hold function is released if the key is pressed again or time expires as per **Hti** setting. |
| Hod 3 | RS-232 is off<br>Hold occurs when the **[Print/Hold]** key is pressed.<br>Hold is released if **[Print/Hold]** is pressed again or time expires as per **Hti** setting. | Print continuously.<br>Hold occurs when the **[Print/Hold]** key is pressed.<br>Hold is released if **[Print/Hold]** is pressed again or time expires as per **Hti** setting. | RS-232 prints and the hold occurs when **[Print/Hold]** is pressed.<br>If **[Print/Hold]** is pressed a second time print will occur again.<br>Hold is released if **[Print/Hold]** is pressed again or time expires as per **Hti** setting. |

## 7.2 TECHNICAL PARAMETERS

The technical parameters allow adjusting of the scale for accuracy and speed. See section 18.0 for the complete list of parameters.

- Switch off the scale.
- Hold the **[Unit]** key and then press **[On/Off]** momentarily. Release the **[Unit]** key. The display shows the first technical parameter to set the filter "**Fi x**".
- To exit the parameter setting at any time, press the **[Print/Hold]** key.

- To scroll through the technical parameters, press the **[Unit]** key (which will advance to the next parameter).

- To return to normal weighing, turn the scale off and back to on again or press the **[Print/Hold]** key.

### 7.2.1 FILTER

This parameter is for setting the speed of the display filter. For poor environments the filter should be set at its slowest to minimise external influences on the scale. For weighing small samples or gradual filling, the filter should be set at a faster setting.

- Press **[Tare/Zero]** to scroll through the options. The display will show "**Fi 1**" to "**Fi 3**". If it is set to "**F1 1**" then the display is at its slowest setting and at "**F1 3**" the display is in its fastest setting.

- Press **[Unit]** to confirm the selection and move to the next parameter.

### 7.2.2 ZERO TRACKING

This parameter is for setting the range of the zero tracking. Zero tracking will aid the scale to hold or return to zero and should be increased if large weights are left on the scale or temperature is not consistent.

- Press **[Tare/Zero]** to scroll through the settings. The display will show "**ZEo 1**" to "**ZEo 8**". If it is set to "**ZEo 1**" the zero tracking is at its smallest range and "**ZEo 8**" the highest.

- Press **[Unit]** to confirm the selection and move to the next parameter.

### 7.2.3 STABILIZATION RANGE

This parameter is for setting the range of the stability indicator. This is used to determine when the scale will print automatically as well as indicate that the weight is stable.

- Press **[Tare/Zero]** to scroll through the settings. The display will show "**StA 1**" to "**StA 8**". If it is set to "**StA 8**" then the stability is at its fastest and "**StA 1**" the slowest.

- Press **[Unit]** to confirm the selection and move to the next parameter.

### 7.2.4 STABILIZATION TRACKING

This parameter is for setting the size of the tracking range to indicate the stability. This is used to stable the scale once a weighing result is achieved.

- Press **[Tare/Zero]** to scroll through the settings. The display will show "**Str 1**" to "**Str 5**". If it is set to "**Str 1**" then the stability range is at its smallest and "**Str 5**" the highest.

- When the desired value is displayed, press the **[Print/Hold]** key to select the value and exit the Technical Parameters. The display will count down to zero and the scale will return to normal weighing.

- If **[Unit]** is pressed instead of the **[Print/Hold]** key, the display will ask for Pin for entering into the Factory Parameters. Switch off the scale.

- Switch on the scale to start the operation.

## 7.3 FACTORY PARAMETERS

If after the last Technical Parameter **[Unit]** key is pressed, the scale will advance to the Factory Parameter section. This section contains critical calibration reference information and is protected by a Pin Code which can only be accessed by a qualified technician. To exit, the user must switch off the scale when the display shows "**Pi**".

To proceed through the factory parameters, follow the procedure as below:

- When the display shows "**Pi** ", enter the pin code simply by pressing the **[Print/Hold]**, **[Tare/Zero]** and **[Unit]** keys in this order. The display will show a dash for each entry.

- Press **[Unit]** to enter the factory parameter settings. The display will show the capacity and units.

- Press the **[Unit]** button to select the required factory calibration units.

- Press **[Tare/Zero]** to select the desired maximum capacity to match the capacity of the weighing base.

- Press **[Print/Hold]** to proceed to factory calibration. The display will show "**L 00**" with the left zero flashing.

- Press **[Tare/Zero]** to scroll down the flashing digit and **[Print/Hold]** to move to the next digit until the calibration mass value is displayed. (This should be as near to maximum capacity as possible and not less than 10% of the scale capacity).

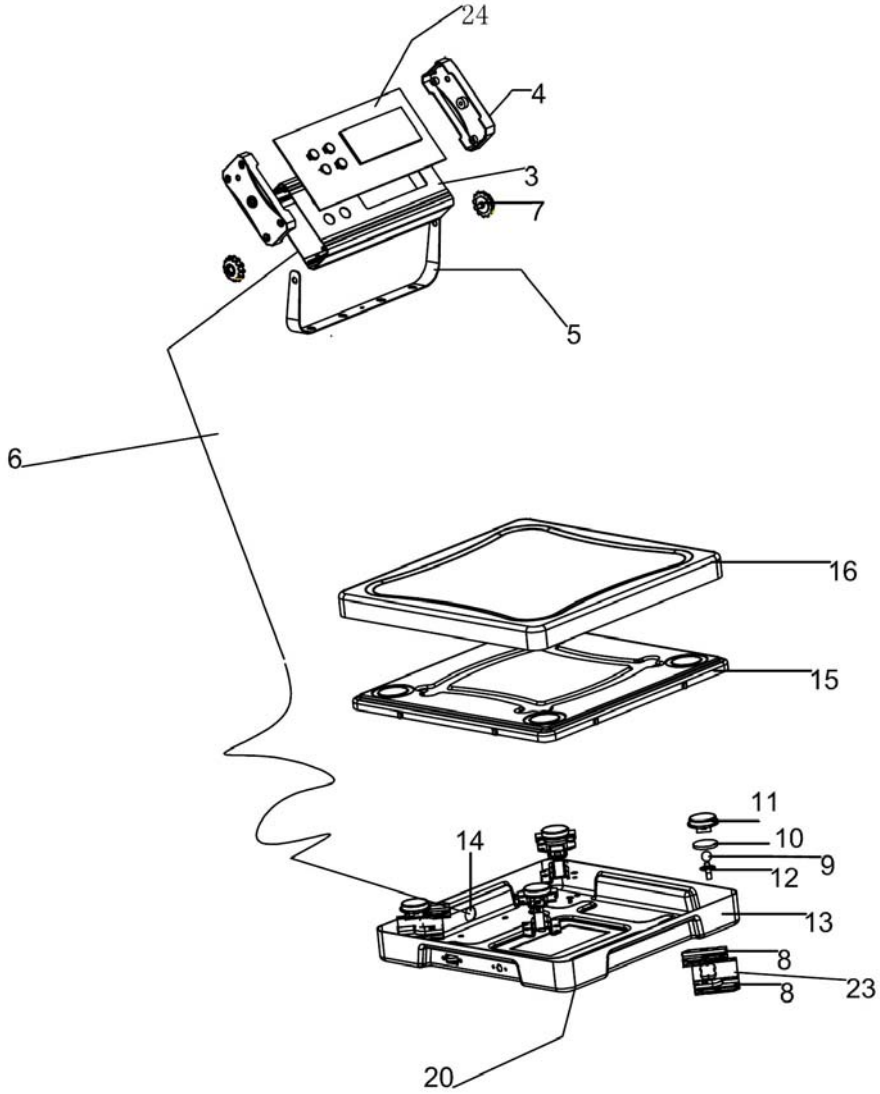
- Press **[Unit]** to enter the value and display the raw ADC counts. Verify that the counts look correct and increase by a linear value when loaded to maximum. The ADC counts can vary between different models, however typically the no load count value is between 2000 and 5000 counts. When loaded to maximum the ADC count value should increase by approximately 20,000 if the correct base is being used.

- With no mass on the pan press **[Unit].** The display will show "**LOAd**" and will return the ADC counts.

- Put the calibration mass entered earlier on to the pan and press **[Unit]**. The factory calibration is completed and the scale returns to normal weighing.

It is now possible for the user to perform calibration at any point above 10% of the scale capacity. However the new calibration must be less than ±20% error from the factory calibration at the same mass or an error will be shown and calibration will be void.

# 8.0 TYPICAL EXPLODED VIEW




| NUMBER | PARTS | QUANTITY | NUMBER | PARTS | QUANTITY |
|---|---|---|---|---|---|
| 3 | Display case | 1 | 11 | Steel ball cap | 4 |
| 4 | Slide cover | 2 | 12 | Steel ball fixing structure | 4 |
| 5 | Indicator bracket | 1 | 13 | Base (steel ring) | 1 |
| 6 | Base to Indicator Cable | 1 | 14 | Sealed ring | 1 |
| 7 | Large screw | 2 | 15 | Pan Holder | 1 |
| 8 | Load cell holder | 8 | 16 | Pan (with dent) | 1 |
| 9 | Steel ball | 4 | 20 | Foot | 4 |
| 10 | Steel ball cover | 4 | 24 | Panel | 1 |

CE

**Manufacturer's Declaration of Conformity**

This product has been manufactured in accordance with the harmonised European standards, following the provisions of the below stated directives:

Electro Magnetic Compatibility Directive 89/336/EEC

Low Voltage Directive 73/23/EEC

Adam Equipment Co. Ltd.
Bond Avenue, Denbigh East
Milton Keynes, MK1 1SW
United Kingdom

***FCC COMPLIANCE***

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. The equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Shielded interconnect cables must be employed with this equipment to insure compliance with the pertinent RF emission limits governing this device.

Changes or modifications not expressly approved by Adam Equipment could void the user's authority to operate the equipment.

***WEEE COMPLIANCE***

Any Electrical or Electronic Equipment (EEE) component or assembly of parts intended to be incorporated into EEE devices as defined by European Directive 2002/95/EEC must be recycled or disposed using techniques that do not introduce hazardous substances harmful to our health or the environment as listed in Directive 2002/95/EC or amending legislation. Battery disposal in Landfill Sites is more regulated since July 2002 by regulation 9 of the Landfill (England and Wales) Regulations 2002 and Hazardous Waste Regulations 2005. Battery recycling has become topical and the Waste Electrical and Electronic Equipment (WEEE) Regulations are set to impose targets for recycling.

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**ADAM EQUIPMENT** is an ISO 9001:2000 certified global company with more than 35 years experience in the production and sale of electronic weighing equipment.

Adam products are predominantly designed for the Laboratory, Educational, Medical, retail and Industrial Segments. The product range can be described as follows:

-Analytical and Precision Balances
-Compact and Portable Balances
-High Capacity Balances
-Moisture analysers / balances
-Mechanical Scales
-Counting Scales
-Digital Weighing/Check-weighing Scales
-High performance Platform Scales
-Crane scales
-Medical Scales
-Retail Scales for Price computing

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